

Application Serial No: 10/631,221  
In reply to Office Action of 11 November 2004

Attorney Docket No. 76589

REMARKS/ARGUMENTS

Claims 1-18 were pending in the application prior to the present response, and of these claims 5-11 are withdrawn. No claims are allowed. By this response claims 13, 15, 16, and 18 are amended. Claims 1-4, 12, 14 and 17 are cancelled, the Applicants hereby indicating that such cancellations are being made **without prejudice**.

Originally claim 15 depended from claim 12 as its parent and from claim 14 as a claim intermediate between it and the parent. By the present amendment the limitations of this parent and this intermediate claim has been imported into claim 15, which is now a claim of independent form. By the present response claims 13, 16 and 18 have been amended to depend from claim 15.

With respect to the presently pursued independent claim 15 (including limitations imported from cancelled claims 12 and 14), and dependent claims 13, 16 and 18, the above referenced Office Action rejects them under 35 U.S.C. 103(a) as being unpatentable over Kruda et al (ref. A: U.S. Patent No 4,410,588) in view of Krevor (ref. D: U.S. Patent No. 4,685,090). It is said that Kruda discloses a buoyant cable assembly (Figs 1-2) for seismic exploration of the substrata beneath bodies of water and more particularly, to a marine seismic cable for sensing reflected seismic waves for the substrat as a seismic streamer (Col 1, lines 5-8). Specifically, with respect to claim 12 Kruda

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discloses a cable section assembly (Fig 2) having an outer diameter and whose length is limited by the size of the practical clamshell overmolding apparatus (26) comprising a core structure (12), a casing (40) for adding stiffness to the cable (10) and preventing damage to the core structure (12) during handling and deployment (Col. 3, lines 11-13), wherein the casing (40) surrounds the core structure (12) and is made of a thermoplastic material (i.e., polyurethane, Col. 10-13), wherein the core structure (12) and is made of a thermoplastic material (i.e. polyurethane, Col 10-13), wherein the core structure (12) has an outer surface and is formed of at least one longitudinally extending member (22, 24, 26) made of polyurethane based material (i.e., 22 is made of urethane, Col 2, lines 50-54). With respect to claim 13, Kruda discloses that the covering (40) is made of a polyolefin and fluoropolymer material (i.e., polyurethane plastic) to protect the core structure (12, Col 3, lines 11-13).

With respect to claim 15, Kruda discloses that the cable assembly (Fig 2) has a thickness). With respect to claim 18, Kruda discloses that the core structure (12) includes a central flexible conduit (22, 24, 26) and at least one linearly extending energy transmission medium (16), which are electrical conductors (Col 2, lines 45-46). The Examiner admits that Kruda doesn't necessarily disclose the covering being heat shrinkable tubing

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(claim 12), nor a cable section having a diameter in the range of 0.5 - 0.75 inches, nor the adhesive layer being a layer of heat meltable tape spirally wrapped around the core structure in an overlapping successive wrap (claim 12), nor the covering layer having a thickness of  $1/16^{\text{th}}$  of an inch (claim 15), nor the tape being of the type which is not tacky on its exterior surface (claim 17). It is said that Krevor teaches a buoyant cable assembly (Figs 1-5) for seismic exploration of the substrata beneath bodies of water and more particularly, such a seismic streamer (Col 1, lines 5-23), wherein the cable assembly has an outer covering which exhibits good physical properties such as high modulus, solvent, flexibility, ultraviolet stability, good weatherability, scrape resistance, good surface finish, creep resistance, water resistance, and acoustic damping characteristics (Col 3, lines 50-57).

Specifically, with respect to claim 12, Krevor teaches a cable assembly (Fig 2) comprising a longitudinally extending core (22, 20, 12) that includes as its outer layer at least one segment (12) having an annularly cross-sectional shape (Fig 3) and being a plastic based material (i.e. polymeric material, Cols 3-4, lines 1-20 & 1-8 respectively), which may be molded and a covering (14 & 16) formed of a heat shrinkable tubing (Col 5, lines 20-26) to protect the core structure (20 & 22, Col 5, lines

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41-49). With respect to claim 12, Krevor teaches that cable assembly has an outer diameter of 1-4 inches (Col 5, lines 63-66), wherein the adhesive layer may be a layer of heat meltable tape spirally wrapped around the core structure in an overlapping successive wrap (Col 5, lines 31-33 & 50-54 respectively). With respect to claim 15, Krevor teaches that the covering layer (14 & 16), may have a thickness of 0.80-0.0400 [sic, 0.080-0.40] inches (Col 5, lines 63-66). The Examiner concludes that with respect to claim 12, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable assembly of Kruda to comprise outer covering configuration as taught by Krevor because Krevor teaches that such an outer covering configuration provides the cable assembly which exhibits good physical properties such as high modulus, solvent, flexibility, ultraviolet stability, good weatherability, scrape resistance, good surface finish, creep resistance, water resistance, and acoustic damping characteristics (Col 3, lines 50-57). (underlining supplied by Applicants.)

Note that the rejection fails to apply any disclosure teaching or suggestion from within the references to the limitation recited by which claim 14, namely

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"...said thermoplastic heat shrinkable tubing has a predetermined tube wall thickness so chosen to adapt the tubing to exert sufficient constrictive forces upon said adhesive layer to cause the exterior of the assembly to be uniformly formed throughout its length ...."

These rejections are respectfully traversed in view of these amendments and remarks.

Claim 15 as amended addresses the aspect of the invention disclosed at page 9 line 16 through page 10, line 3 recited as "... said thermoplastic heat shrinkable tubing has a predetermined tube wall thickness so chosen to adapt the tubing to exert sufficient constrictive upon said adhesive layer force to cause the exterior of its assembly to be uniformly formed throughout its length, and said predetermined thickness is about 1/16<sup>th</sup> of an inch, ...."

Admitting this feature is not in the primary reference, Kruda, the Examiner has attempted to establish the third basic criteria for establishing a prima facie case of obviousness required by M.P.E.P. 2143 by proposing that Krevor's disclosure at Col 5. lines 20-26, regarding layer 14 therein and layer 16 therein, teaches or suggest the aforesaid claim recitation of

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Applicants.

Applicants respectively disagree with this technical proposition. The molding and covering element 14 and 16 referred to in the text of Krevor to which the Examiner directed attention are in fact a part of a 3-part laminate structure including an interior layer 18, which has the purpose of providing constrained-layer hydrodynamic noise damping (Krevor's col 6, lines 55-57, further amplified upon at col 6, lines 26-35). Krevor also describes the function of this 3-part laminate as enabling dimensional recovery (col 5, lines 27-31). It is submitted that Krevor's 3-part laminate structure which is an assembly for providing constraint-layer damping and a dimensional recovery capability is not a teaching or suggestion of what Applicants' claim 15 recites. That is to say it does not teach the heat shrinkable casing tube, which a cable core structure (claim 15, line 6) with adhesive material thereabout (lines 17 through 19), with an outer diameter in the range 0.5 - 0.75 inches of which an exterior heat shrinkable tube has a wall thickness of the order of 1/16<sup>th</sup> inch and of a length limited by the practical size of a clamshell mold, and with a functionally imposed structural limitation that the tube provides sufficient constrictive forces to cause the cable assembly to be uniformly formed through out its length.

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As an argument with a cumulative or alternative effect, it is submitted that the Examiner has further failed to supply rationale to sufficiently explain where the motivation comes from to modify Kruda per the Examiner's alleged teachings or suggestions in Krevor. The need for this is the first of the three basic criteria specified by MPEP 2143 in order to establish a prima facie case. A finding by the Examiner is required, In re Lee 1342-44 Fed. Cir. 2002. Applicants submit that the nature of the problem solved by Krevor's 3-part intra-layer damping layer constraining structure (the subject of earlier discussion herein) is neither an explicit nor an implicit source of motivation to provide the above reproduced claimed limitations for constraining effects to produce uniformity along the length of an assembly.

For the foregoing reasons withdrawal of the 35 U.S.C. 103(a) rejection of claim 15 is requested.

Claims 13, 16 and 18 depend from claim 15, and thus each contains the same limitations as claim 15. Therefore, at least by virtue of their dependency, the rejection does not apply to them either, and withdrawal of their respective rejections is also requested.

Applicants respectfully suggest in view of these remarks that all grounds for rejection and objection have been removed by the foregoing amendment. Reconsideration and allowance of this

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application are therefore earnestly solicited.

The Examiner is invited to phone Michael F. Oglo, attorney for Applicants, 401-832-4736, if in his opinion such phone call would serve to expedite the prosecution of this application.

Respectfully submitted,

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